IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors:	Brian Scott Hallisey, et al.	Examiner: Nicholas Augustine
Serial No.:	10/647,210	Group Art Unit: 2179
Filed:	August 26, 2003	Docket No.: 200206455-1
Title:	Methods of Displaying Resources of Overlapping But Separate Hierarchies	

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed in response to the Final Office Action mailed November 3, 2007 and Notice of Appeal filed on February 3, 2009.

AUTHORIZATION TO DEBIT ACCOUNT

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals, judicial proceedings, or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Appeal Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 – 3 and 5 – 25 are pending in the application and stand finally rejected.

Claim 4 was canceled. The rejection of claims 1 – 3 and 5 – 25 is appealed.

IV. STATUS OF AMENDMENTS

No claim amendments were made after receipt of the Final Office Action. All claim amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

Claim 1

A method of using a Graphical User Interface (GUI) to display relationships amongst resources of a system, the method comprising:

illustrating at least two overlapping but separate hierarchies in the same mosaic-like graphic, each hierarchy representing one or more of the relationships amongst the resources (Figure 3A shows a mosaic-like pane 300 showing a first hierarchy of storage resources 301 and a second hierarchy of storage resources 303. LUNs 304 and 306 report to (i.e., are hierarchical children of) a first parent array 302. At the same time, LUNs 304, 306, and 308 report to (i.e., are hierarchical children of) a different parent VG 310. Thus, LUNs 304 and 306 overlap between two different hierarchies. See p. 6, line 1 of paragraph [0023] – p. 7, line 8 of paragraph [0026]. Figure 3B further shows how LUN 308 belongs or reports to two different hierarchical parents: VG 310 and JBOD 320.); and

arranging said resources representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicates relationships between particular resources of the respective column (Figure 3B in Appellants' specification shows that LUNs 304, 306, 308, 322, 324, and 336 are all of the same resource type and arranged in a same column. Other resources (such as Volume Groups 310, 326, and 338) are also arranged in a same column. Rows that intersect a column indicate a relationship between resources. For example, the row

with LUN 306 indicates a relationship with both Array 302 and VG 310. See p. 8, line 1 of paragraph [0029] – p. 8, line 10 of paragraph [0030].).

Claim 14

A method of controlling the relationships amongst resources of a system, wherein said resources are iconically represented and illustrated on a Graphical User Interface (GUI), comprising:

manipulating a relationship of resources in said iconically illustrated system (Attributes of a resource (example, storage capacity) are changed by right-clicking on an icon and changing the attribute. Upon completing the changes, the system automatically updates the mosaic-like pane and re-sizes the icon: see paragraph [0033] on page 9); and

re-sizing areas of, in response to said manipulating, the relative footprints of said icons according to an effect upon the corresponding resources, respectively, caused by the relationship manipulation, wherein the relationship of the resources are shown in a hierarchical tree from placement of icons in columns with resources of a same type being in a same column (Icons having a physical larger size on the display correspond to larger storage capacity. For example, LUN 306 in Figure 3A has a larger storage capacity than LUN 308 because LUN 306 is larger than LUN 308. When a user changes the storage capacity of the LUN (example, LUN 306 or 308), the system resizes the corresponding icon to make the icon larger if the storage capacity increased or smaller if the storage capacity decreased. See p. 9, line 1 of paragraph [0032] – p. 10, line 9 of [0033]).

Claim 15

The method of claim 14, wherein said manipulating step comprises:

interacting with at least one icon, representative of one said resource in said iconically illustrated system to initiate a change of at least one attribute of said represented resource (Attributes of a resource (example, storage capacity) are changed by right-clicking on an icon and changing the attribute. Upon completing the changes, the system automatically updates the mosaic-like pane and re-sizes the icon: see paragraph [0033] starting on page 9 and extending to page 10.).

Claim 18

A method of displaying relationships amongst first, second and third types of resources of a system, the method comprising:

preparing a graphic of at least two separate but overlapping hierarchies such that (Figure 3A shows a mosaic-like pane 300 showing a first hierarchy of storage resources 301 and a second hierarchy of storage resources 303. LUNs 304 and 306 report to (i.e., are hierarchical children of) a first parent array 302. At the same time, LUNs 304, 306, and 308 report to (i.e., are hierarchical children of) a different parent VG 310. Thus, LUNs 304 and 306 overlap between two different hierarchies. See p. 6, line 1 of paragraph [0023] – p. 7, line 8 of paragraph [0026])

viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type (The mosaic-like pane 300 in Figure 3A can be viewed in a first direction from left to right or a second direction right to left. When viewing the pane in the first direction (i.e., left to right), array 302 is viewed as the parent of LUNs 304 and 306: see p. 8 at paragraph [0030]), and

viewing the graphic in a second direction different from the first direction represents a second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type (The mosaic-like pane 300 of Figure 3A can be viewed in the second direction (i.e., right to left). When viewing the pane in the second direction, VG 310 is viewed as the parent of LUNs 304, 306, and 308: see p. 8 at paragraph [0030]); and

displaying the graphic (Figure 3A shows a mosaic-like pane 300).

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VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claim 18 is rejected under 35 USC § 102(e) as being anticipated by US publication number 2004/0212616 (Uthe).

Claims 1-3 and 5-25 are rejected under 35 USC § 103(a) as being unpatentable over US publication number 2004/0212616 (Uthe) in view of USPN 6,426,761 (Kanevsky).

VII. ARGUMENT

The rejection of claims 1 – 3 and 5 – 25 is improper, and Appellants respectfully request reversal of these rejections.

The claims do not stand or fall together. Instead, Appellants present separate arguments for various claims. Each of these arguments is separately argued below and presented with separate headings and sub-heading as required by 37 C.F.R. § 41.37(c)(1)(vii).

Claim Rejections: 35 USC § 102(a)

Claim 18 is rejected under 35 USC § 102(e) as being anticipated by US publication number 2004/0212616 (Uthe). This rejection is traversed.

Principles of Law: Claim Construction

During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification (see *In re Prater*, 415 F.2d 1393,1404-05 (CCPA 1969); *In re Am. A cad. a/Sci.Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)).

Although a patent applicant is entitled to be his or her own lexicographer of terms in a claim, in *ex parte* prosecution the lexicography must be within limits. *In re Carr*, 347 F.2d 578,580 (CCPA 1965). The applicant must do so by placing such definitions in the specification with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be construed. *See also In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (although an inventor is free to define the specific terms used to describe the invention, this must be done with reasonable clarity, deliberateness, and precision; where an inventor chooses to give terms uncommon meanings, the inventor must set out any uncommon definition in some manner within the patent disclosure so as to give one of ordinary skill in the art notice of the change).

Principles of Law: Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros.* v. *Union Oil Co. a/California,* 814 F.2d 628, 631 (Fed. Cir. 1987). "When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art." *Brown* v. *3M,* 265 F.3d 1349,1351 (Fed. Cir. 2001). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson* v. *Suzuki Motor Co.,* 868 F.2d 1226, 1236 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond,* 910 F.2d 831,832 (Fed. Cir. 1990).

Sub-Heading: Claim 18

Independent claim 18 recites one or more elements not taught in Uthe. As one example, claim 18 recites viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type. The claim then recites viewing the graphic in a second direction different from the first direction represents a second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type. Uthe does not teach or suggest these elements.

Uthe teaches highlighting nodes and using call-out boxes to convey to a user that two nodes are the same (see Uthe at paragraph [0017]). Figure 1 in Uthe shows a multi-ownership tree-map, but this tree-map does not indicate a relationship of resources when viewed in a first direction and a second direction. Relationships in Uthe are shown with highlighting and call-out boxes. Thus, Uthe does not teach or even suggest viewing the graphic in a first direction represents a first one of separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type, and viewing the graphic in a second direction different from the first direction represents a second one of separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type.

Claim Rejections: 35 USC § 103(a)

Claims 1-3 and 5-25 are rejected under 35 USC § 103(a) as being unpatentable over US publication number 2004/0212616 (Uthe) in view of USPN 6,426,761 (Kanevsky). These rejections are traversed.

Principles of Law: Obviousness

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex Inc.*, 550 U.S._, 82 USPQ2d 1385 (2007):

> Under §103, the scope and content of the prior art are to be determined;
> differences between the prior art and the claims at issue are to be
> ascertained; and the level of ordinary skill in the pertinent art resolved.
> Against this background the obviousness or nonobviousness of the subject
> matter is determined. Such secondary considerations as commercial
> success, long felt but unsolved needs, failure of others, etc., might be
> utilized to give light to the circumstances surrounding the origin of the
> subject matter sought to be patented. Quoting *Graham v. John Deere Co.
> of Kansas City*, 383 U.S. 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, "[a]ll claim limitations must be considered" because "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385.

According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

(A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S.__, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness."

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

Scope and Content of Art and Overview of Claims

As a precursor to the arguments, Appellants provide an overview of the claims and the primary references (Uthe and Kanevsky). This overview will assist in determining the scope and content of the prior art as required in Graham (see *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 setting out an objective analysis for applying 103 rejections).

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As discussed in Appellants' specification, traditional hierarchical trees will not work if children nodes (for example, leaves of the tree) share a relationship with separate hierarchies (i.e., the same leaves belong to different trees). "An example of this is provided via Fig. 1B, which is an illustrative depiction of how a simple hierarchical tree format fails to adequately convey the overlap between hierarchies for a system having resources occupying a rank in overlapping but separate hierarchies" (see paragraph [0016]). As shown in Fig. 1B, LUNs 132 and 134 belong to one parent array 130 but also belong to another parent Volume Group 144 and another parent Volume Group 146 (see paragraph [0018]). Attempting to depict these relationships in a traditional hierarchical tree confuses and obfuscates the relationship between the Array 130 and Volume Groups 144 and 146 (see paragraph [0019]).

Embodiments of the invention cure the problems of traditional hierarchical trees when leaves or branches belong to separate trees or separate hierarchies. For example, claim 1 is directed to a method for displaying the relationship between such storage resources that belong to separate hierarchies (i.e., the same resource belongs to separate trees or separate branches). The display uses a mosaic-like graphic to illustrate overlapping but separate hierarchies. Figure 3A shows a mosaic-like pane 300 showing a first hierarchy of storage resources 301 and a second hierarchy of storage resources 303. LUNs 304 and 306 report to (i.e., are hierarchical children of) a first parent array 302. At the same time, LUNs 304, 306, and 308 report to (i.e., are hierarchical children of) a different parent VG 310. Thus, LUNs 304 and 306 overlap between two different hierarchies.

Uthe teaches highlighting nodes and using call-out boxes to convey to a user that two nodes are the same. Figure 1 in Uthe shows a multi-ownership tree-map, but this tree-map does not indicate a relationship of resources between columns and rows.

Kanevsky teaches a large central icon with smaller icons arranged around the larger central icon.

Differences Between the Art and Claims

Each of the independent claims recites one or more elements that are not taught or suggested in Uthe in view of Kanevsky. These missing elements show that the differences between the combined teachings in the art and the recitations in the claims are great. As such, the pending claims are <u>not</u> a predictable variation of the art to one of ordinary skill in the art.

These differences are shown below and presented with separate headings for different claim groups.

Sub-Heading: Independent Claim 1

As one example, independent claim 1 recites arranging said resources representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicates relationships between particular resources of the respective column. Uthe in view of Kanevsky does not teach or suggest this element.

Figure 3B in Appellants' specification shows that LUNs 304, 306, 308, 322, 324, and 336 are all of the same resource type and arranged in a same column. Other resources (such as Volume Groups 310, 326, and 338) are also arranged in a same column. Rows that intersect a column indicate a relationship between resources. For example, the row with LUN 306 indicates a relationship with both Array 302 and VG 310.

Uthe teaches highlighting nodes and using call-out boxes to convey to a user that two nodes are the same (see Uthe at paragraph [0017]). Figure 1 in Uthe shows a multi-ownership tree-map, but this tree-map does not indicate a relationship of resources between columns and rows. Such a relationship is shown with highlighting and call-out boxes.

Kanevsky teaches a large central icon with smaller icons arranged around the larger central icon. Kanevsky also states that the icons can also be arranged "in a circle or elliptical structure, icons in tree-like structure, and icons in 3-D clusters with bounding regions of various shapes..." (see Kanevsky at column 5, lines 1-6). Notice, however, that nowhere does Kanevsky teach or even suggest that a relationship of resources is

based on placement of icons in columns with resources of a same type being in a same column. Furthermore, Kanevsky is not showing resources in a hierarchical tree.

The combination of Uthe and Kanevsky teachings arranging a large central icon with smaller icons around a perimeter of the central icon. Call-out boxes extend from the icons to indicate if two icons or nodes are the same.

Thus, Uthe in view of Kanevsky does not teach or even suggest arranging resources representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicates relationships between particular resources of the respective column.

The differences between the claims and the teachings in the art are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, the claims are allowable over the art of record.

Sub-Heading: Independent Claim 14

As one example, independent claim 14 recites that the relationship of the resources are shown in a hierarchical tree from placement of icons in columns with resources of a same type being in a same column. Uthe in view of Kanevsky does not teach or suggest this element.

Uthe teaches highlighting nodes and using call-out boxes to convey to a user that two nodes are the same (see Uthe at paragraph [0017]). Figure 1 in Uthe shows a multi-ownership tree-map, but this tree-map does not indicate a relationship of resources based on placement of icons in columns with resources of a same type being in a same column. Relationships in Uthe are shown with highlighting and call-out boxes.

Kanevsky teaches a large central icon with smaller icons arranged around the larger central icon. Kanevsky also states that the icons can also be arranged "in a circle or elliptical structure, icons in tree-like structure, and icons in 3-D clusters with bounding regions of various shapes..." (see Kanevsky at column 5, lines 1-6). Notice, however, that nowhere does Kanevsky teach or even suggest that a relationship of resources is based on placement of icons in columns with resources of a same type being in a same column. Furthermore, Kanevsky is not showing resources in a hierarchical tree.

The combination of Uthe and Kanevsky teachings arranging a large central icon with smaller icons around a perimeter of the central icon. Call-out boxes extend from the icons to indicate if two icons or nodes are the same. Even if the icons were arranged in columns, neither Uthe nor Kanevsky teaches that a relationship of resources is based on placement of icons in columns with resources of a same type being in a same column. Instead, the combination of Uthe and Kanevsky would use call-out boxes to indicate which resources had a same type.

The differences between the claims and the teachings in the art are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, the claims are allowable over the art of record.

Sub-Heading: Dependent Claim 15

Claim 15 emphasizes that interaction with the icon itself changes the attribute of the resource. Uthe in view of Kanevsky does not teach or suggest this claim element. The examiner cites Uthe at column 5, lines 1-5 and column 4, lines 14, 31, 38, 44-46, and 51 for allegedly teaching this claim element. Uthe does not have such columns and line numbers, and therefore the examiner has **failed to make a prima facie case of obviousness**.

In Uthe, a user uses call-out boxes to convey information about a node. The user never interacts with the icon itself to **change an attribute of the icon**.

Although Kanevsky states that icons can have different sizes based on the size of information being represented, Kanevsky never states how these sizes are changed or manipulated. Kanevsky never suggests that a user would manipulate the size of the icon itself to change its size. This aspect is recited in claim 15.

Sub-Heading: Independent Claim 18

As one example, independent claim 18 recites viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type, and viewing the graphic in a second direction different from the first direction represents a

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second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type. Uthe in view of Kanevsky does not teach or suggest these elements.

The examiner has not cited any location whatsoever in Uthe in view of Kanevsky for alleged teaching the claim elements of independent claim 18 (even though the examiner rejects claim 18 as being obvious over Uthe in view of Kanevsky). As such, **the examiner has failed to establish a prima facie case of obviousness.** Nevertheless, Appellants discuss differences between the elements of claim 18 and Uthe in view of Kanevsky.

Uthe teaches highlighting nodes and using call-out boxes to convey to a user that two nodes are the same (see Uthe at paragraph [0017]). Figure 1 in Uthe shows a multi-ownership tree-map, but this tree-map does not indicate a relationship of resources when viewed in a first direction and a second direction. Relationships in Uthe are shown with highlighting and call-out boxes.

Kanevsky teaches a large central icon with smaller icons arranged around the larger central icon.

The combination of Uthe and Kanevsky teachings arranging a large central icon with smaller icons around a perimeter of the central icon. Call-out boxes extend from the icons to indicate if two icons or nodes are the same.

Thus, Uthe in view of Kanevsky does not teach or even suggest viewing the graphic in a first direction represents a first one of separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type, and viewing the graphic in a second direction different from the first direction represents a second one of separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type.

The differences between the claims and the teachings in the art are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are <u>not</u> a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, the claims are allowable over the art of record.

CONCLUSION

In view of the above, Appellants respectfully request the Board of Appeals to reverse the Examiner's rejection of all pending claims.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

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VIII. Claims Appendix

1. A method of using a Graphical User Interface (GUI) to display relationships amongst resources of a system, the method comprising:

illustrating at least two overlapping but separate hierarchies in the same mosaic-like graphic, each hierarchy representing one or more of the relationships amongst the resources; and

arranging said resources representing same type of resources into columns, wherein adjacent columns group different resources, and a row intersecting adjacent columns indicates relationships between particular resources of the respective column.

2. The method of claim 1, wherein said resources are represented by icons and at least one resource occupies a rank in at least two of said overlapping but separate hierarchies, further comprising:

sizing said icons in proportion to said at least one attribute of said represented resource.

3. The method of claim 2, wherein said at least one attribute is storage capacity.

4. (canceled)

5. The method of claim 2, further comprising:

labeling one hierarchical columns and one hierarchical rows with an indication of at least one common feature.

6. The method of claim 2, further comprising:

interacting with at least one said icon of said mosaic-like graphic, wherein said

interaction results in a change in said at least one attribute of said represented resource;

and

in response to said interaction, restructuring a first mosaic-like pane by at least

re-sizing said icons proportional to a change in said at least one attribute of said

represented resources, compared to a footprint of said at least one attribute prior to said

interaction.

7. The method of claim 6, wherein said interacting step, comprises:

receiving an indication that one of said icons was chosen from said first mosaic-

like pane;

displaying attributes of said represented resource; and

receiving changes to said attributes.

8. The method of claim 7, wherein said displaying attributes comprises:

illustrating said attributes in a pop-up window.

9. The method of claim 7, wherein said receiving an indication, comprises:

receiving a user indication through a peripheral device.

10. The method of claim 2, wherein the mosaic-like graphic is a first mosaic-like graphic, the method further comprising illustrating a first mosaic-like pane and a second mosaic-like pane containing independent icons representative of resources that may be added to said at least two overlapping but separate hierarchies, comprising:

receiving an indication of a new relationship developed between a resource of a type represented in said second mosaic-like pane and the resources represented in said first mosaic-like pane; and

restructuring, in response to receiving said indication, said at least two overlapping but separate hierarchies and corresponding said first mosaic-like pane by at least re-sizing said icons proportional to a change in said at least one attribute of said represented resources, compared to a footprint of said at least one attribute prior to receiving said indication.

11. The method of claim 10, wherein said receiving an indication step, comprises:

processing a drag-and-drop of at least one said independent icon from said second mosaic-like pane to said first mosaic-like pane.

12. The method of claim 11, further comprising:

rejecting said processing of an invalid said drag-and-drop.

13. The method of claim 11, further comprising:

in response to said processing step, displaying a pop-up window for receiving changes to said attributes.

14. A method of controlling the relationships amongst resources of a system, wherein

said resources are iconically represented and illustrated on a Graphical User Interface

(GUI), comprising:

> manipulating a relationship of resources in said iconically illustrated system; and

> re-sizing areas of, in response to said manipulating, the relative footprints of said

icons according to an effect upon the corresponding resources, respectively, caused by

the relationship manipulation, wherein the relationship of the resources are shown in a

hierarchical tree from placement of icons in columns with resources of a same type being

in a same column.

15. The method of claim 14, wherein said manipulating step comprises:

> interacting with at least one icon, representative of one said resource in said

iconically illustrated system to initiate a change of at least one attribute of said

represented resource.

16. The method of claim 15, wherein said initiating step comprises:

> displaying, in response to said interaction step, attributes of said represented

resource, wherein said attributes are changeable; and

> indicating changes to said at least one attribute through the

operation of at least one peripheral device.

17. The method of claim 16, wherein said displaying attributes step comprises:

illustrating said attributes in a pop-up window.

18. A method of displaying relationships amongst first, second and third types of resources of a system, the method comprising:

preparing a graphic of at least two separate but overlapping hierarchies such that

viewing the graphic in a first direction represents a first one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the second resource type, and

viewing the graphic in a second direction different from the first direction represents a second one of said separate but overlapping hierarchies in which ones of the first resource type report hierarchically to ones of the third resource type; and

displaying the graphic.

19. The method of claim 18, wherein the graphic is mosaic-like.

20. The method of claim 19, wherein each of the first, second and third resources is represented as an iconic element of the mosaic-like graphic

21. The method of claim 18, wherein

the first one of said separate but overlapping hierarchies represents physical storage resources of a storage system, and

the second one of said separate but overlapping hierarchies represents logical storage resources of the storage system.

22. The method of claim 18, wherein the second direction is opposite to the first

direction.

23. The method of claim 18, wherein said first, second and third types of resources are

represented by icons, further comprising:

sizing said icons in proportion to at least one attribute of said represented

resource.

24. The method of claim 23, wherein said at least one attribute is storage capacity.

25. The method of claim 23, further comprising:

arranging said icons representing same type of resources into columns, wherein

adjacent columns group different resources, and a row intersecting adjacent columns

indicate relationships between particular resources of the respective column.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.